Chapter Five: Millstones and Hog Pens

Madison industry throughout its antebellum history, was centered on the processing of products from the land. During its first three decades the town had only a few small manufactories.[1] In addition to John Paul's girst mill, established around 1814, there were a tannery (1813), a saw-mill (1816), a wool-carding machine (1817), a slaughter house (1819), a cotton mill (ca. 1822), a rope factory (1826), a brewery (1828), and an oil mill (1830).[2] In the three decades following 1830 the types of processing industries established in the earlier period expanded, but the largest and most economically important remained those that processed corn, wheat, and hogs. In 1832 Alexander Washer and Richard Dearborn increased the town's importance as a mill center by building its first merchant mill, a large stone and frame structure five stories high in which four pairs of steam-operated mill stones ground corn and wheat.[3] By 1860 Madison had five such mills, which combined could grind 1,000 bushels of grain per day.[4]

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[1]Processing industries are those branches of manufacturing which are first stage resource users, i.e., they are the first step in the refining or processing of a natural resource for either a foreign or a local or regional market.

[2]Madison Western Eagle, August 6, 1813; Thomas, Travels Through the Western Country, 196; Madison Indiana Republican, May 3, 1817; December 25, 1819; Anonymous reminiscence, The Wanderer, Number 5, "Notes From Pioneer History of Madison, Brief Sketches of Early Settlers," Madison Weekly Herald, October 31, 1889; Madison Indiana Republican, April 27, 1826; October 15, 1828; September 30, 1830.

[3]Madison Indiana Republican, July 19, 1832.

[4]Madison Daily Courier, July 18, 1860.

A number of factors influenced the agricultural orientation of Madison's processing industry during the early period. First, development of the hinterland occurred in stages that extended over many years. The settlers noted in the accounts of early travelers in southern Indiana characterized those stages. Backwoodsmen dominated the first stage and probably made negligible contributions to the development of a processing industry. They "squatted" on unsold land, built a one-room cabin, or perhaps merely a three-sided shack, made a small clearing, grew some corn and a few vegetables, but subsisted largely on game.[5] Noted more for mobility than industry, these settlers served as the cutting edge of the frontier, but contributed little to the improvement of the land. William Faux in 1819 found one such "good-natured man" who, with his family, had "settled and removed eight times, from one degree of barbarism to another."[6]

The backwoodsman might remain on the land and continue its improvement, as did a settler Faux met near New Albany. In "five or six years" this man had improved his land to the point where he was able to replace his first house "a miserable hole, with one room only," with a hewed-log house of two-stories.[7] More often the backwoodsman sold his meager improvements for a few dollars to a second more industrious pioneer, and moved farther into the wilderness to repeat his experience. The more industrious settler without hired help cleared five or six acres every year and in ten years

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[5]Mason, Narrative of Richard Lee Mason, 34; James Flint, Letters from America (Edinburg, 1822), 205.

[6]William Faux, Memorable Days in America: Being a Journal of a Tour to the United States (London, 1823), 242.

[7]Flint, Letters from America, 206; Faux, Memorable Days in America, 205.

cleared about 60 acres.[8] These pioneers advanced beyond the subsistence level of the backwoodsman and produced an agricultural surplus, which found a ready local market. "We can always sell all the produce we raise from the land," one farmer told Faux, "to travellers like you, and others, new comers."[9] These settlers no doubt stimulated Madison's first processing industries, but their surplus proved inadequate to expand those industries beyond their initial stage. Since Paul's mill with its single set of burrs apparently remained the only one in Madison prior to 1821, it presumably handled all the local surplus.[10]

The more industrious settlers were also often transient, "selling out their improved quarter section" to a third type of pioneer to get a larger piece of unimproved or slightly improved land.[11] The third wave of pioneers became a more settled occupant of the land, completing improvement and expanding production to the limit permitted by the quality of the soil and the level of technology.[12] Land improvement brought an increase in the farm surplus available for Madison's processing industries, but the appearance

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[8]Flint, Letters from America, 207; Faux, Memorable Days in America, 205-06.

[9]Faux, Memorable Days in America, 209-10.

[10]In 1818, a steam-operated flour mill began operation opposite Madison at Milton, Kentucky. Madison Indiana Republican, January 10, 1818. This mill doubtless also received grain from Indiana although the charge for ferrying grain across the Ohio River may have limited its use by Indiana settlers when the Paul mill was available.

[11]Flint, Letters from America, 208-10; Faux, Memorable Days in America, 207.

[12]William C. Latta, Outline History of Indiana Agriculture (Lafayette, Indiana, 1938), 42.

of the improver varied over time and place. Since no figures on agricultural production in Madison's hinterland prior to 1840 have been found, nor figures for land improvement prior to 1850, it is impossible to know when this stage reached general proportions. To judge by the appearance of Madison's first merchant mill the town's immediate hinterland apparently had reached this stage at least by 1832. A merchant mill in 1850 with a similar number of burrs could produce between 200 and 250 bushels of wheat per day, which suggests that the farmers who supplied Madison's mill in 1832 were producing sizeable surpluses.[13]

While the gradual expansion of improved land influenced the size and number of processing industries in Madison, the crops early settlers cultivated influenced the kinds of industries developed. The virgin soil, with its accumulated store of plant food, responded generously to the cultivation of a wide variety of crops: grain and fiber crops, vegetables, tobacco, grasses and clover, grapes, and fruit trees.[14] In the development of Madison's processing industries the grain crops--corn and wheat--predominated. Although the farmer could produce a sizeable yield with his simple tools and the rich soil, pulverizing grain meant arduous labor. Before establishment of a water or steam powered grist mill in his neighborhood, the pioneer used homemade implements such as the hominy mortar, the grater, and the handmill to prepare his grain for food.[15] Such was the labor in

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[13]Madison Daily Courier, November 19, 1850. A mill at that time ordinarily consumed four to four and a half bushels of wheat in the production of a barrel of flour.

[14]William Darby, The Emigrant's Guide to the Western and Southwestern States and Territories (New York, 1818), 216-17; Dana, Geographical Sketches, 110-11.

[15]Lippincott, A History of Manufactures, 85.

obtaining meal from the use of these implements, that a settler might travel from 15 to 20 miles to find a mill to perform the work for him.[16] Paul's mill on Crooked Creek provided a much needed service to those who lived within reach of Madison.

No description has been found of Paul's mill but it probably did not differ substantially from other known water mills built in the state during this early period. These were usually built of timber and stone on the side of a creek whose water powered a turbine wheel that drove a single pair of burrs. Some of the millstones or burrs came from granite boulders scattered by early glaciers that a skilled artisan with chisel and mallet could reduce to a small burr.[17] Since the Illinois glacier had extended to the area of Madison, and an early account of artisans in Madison indicates a "stonemason" had settled there, home-made burrs may have been used in the Paul mill.[18] But because such burrs were small and soon became smooth by rubbing, tougher and more cellular stone probably replaced the earlier burrs as demand increased. The burrs used in the Northwest Territory as it opened for settlement often came from Ulster County, New York, Lancaster County, Pennsylvania, and Montgomery County, Virginia. The best burrs were imported from France because they contained high levels of silex that made their surface ridges very hard and sharp.[19] Since Paul's mill

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[16]Thomas, Travels Through the Western Country, 233.

[17]George Branson, "Early Flour Mills in Indiana," Indiana Magazine of History, XXII (March, 1926), 23-24.

[18]Melish, Travels in the United States, II, 142.

[19]Branson, "Early Flour Mills in Indiana," 25.

remained the only one in Madison for nearly twenty years its burrs may eventually have come from one of these sources.

The Paul mill processed wheat during the early period but flour making did not become important to Madison until after 1830.[20] Timothy Flint noted as late as 1828 that "bottoms are too rich for wheat, until the natural wild luxuriance of tendency in the soil had been reduced by cropping."[21] The richness of the virgin soil of southern Indiana, as Karl Bernhard reported in 1825, caused the stalks to grow too long (and consequently, to break), and the heads to contain too few grains, thus making the crop "not very productive."[22] Labor involved in early pioneer planting and harvesting of wheat also limited production. Before the time of improved farm implements the farmers sowed the wheat broadcast by hand in thinly plowed ground, "brushing it in" with a brush drag. Harvesting his crop with a sickle or reap hook, a farmer did well to cut and bind one-half to three-fourths of an acre a day. A laborious hand method of beating out the grain with a flail and separating straw, grain, and chaff followed the harvest.[23] Such hand labor, after the "luxuriance" of the soil had "been reduced by cropping" might yield for a while on a well cultivated farm, "25 to 30 bushels per acre."[24]

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[20] In 1817, its newspaper reported wheat sold in Madison for $1.00 a bushel, Madison Indiana Republican, August 9, 1817.

[21] Flint, A Condensed Geography, II, 141.

[22] Karl Bernhard, Duke of Saxe-Weimer-Eisenach, Travels Through North America During the Years 1825 and 1826 (2 vols., Philadelphia, 1828), II, 120-21.

[23] Latta, History of Indiana Agriculture, 48-49.

[24] Faux, Memorable Days in America, 204.

Corn grew immediately and bountifully in the virgin soil and thrived under the poor cultivation methods of the pioneer.[25] Farm equipment consisted mainly of the hoe and wooden mold-board plow, which caused early white settlers closely to follow the Indian practice of hand planting and cultivation of corn.[26] Under these conditions yield varied with the industry of the farmer. Thomas reported some poorly cultivated corn scarcely six inches high in late June and early July but well cultivated farms might yield 60 bushels an acre.[27] Some farmers, Edmund Dana reported in 1816, raised from 4,000 to 10,000 bushels of corn in a single year.[28] Corn, unhampered by the richness of the soil, and with less arduous labor producing twice the yield of wheat, doubtless provided the first and greatest demand for processing by Paul's mill during the early period.

The hog industry, in which corn was also important, developed early in Madison. Philamon Vawter in 1813 advertised for pork in the neighborhood of Madison.[29] Livestock was then generally very poor with the single exception of hogs. The practice of allowing stock to run at large throughout the year (work animals sometimes excepted), shelterless and foraging largely for themselves, resulted in their deterioration in size and quality. Springtime, especially after a hard winter, found surviving animals in a famished and weakened condition. Where the other livestock deteriorated or perished,

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[25]Thomas, Travels Through the Western Country, 116.

[26]Latta, History of Indiana Agriculture, 52.

[27]Thomas, Travels Through the Western Country, 116; Faux, Memorable Days in America, 204.

[28]Dana, Geographical Sketches, 111.

[29]Madison Western Eagle, October 22, 1813.

hogs multiplied rapidly and quickly adapted to the wilderness. They found an abundance of food in beech mast and other nuts and roots of the forest. Long-snouted, long-legged, slab-sided, razor-backed, and altogether rugged specimens, they attained their full growth in two or two and a half years.[30] The meat of hogs fattened solely on forest products was soft and oily, and if packed for a distant sale was difficult to preserve. Hogs were often sold to a "fatter" who fed them on corn for six weeks or more. The meat then was solid, and lard prepared from the fat was firm and white.[31] One early student of Indiana agriculture reported that hog producers generally fed between 15 and 26 bushels of corn to each hog to prepare it for slaughter.[32] Raised on forest products and finished on corn, these hogs weighed from 200 to 250 pounds.[33]

Since slaughtering and packing did not normally take place until December and January, Vawter's call for hogs in October suggests he sought them for "fatting" on corn rather than slaughter. These hogs may have been slaughtered and packed in Madison but not until 1819, when John Sheets advertised "a place for slaughtering" hogs, is there a clear indication of that industry.[34] No figures were found to indicate the size of Madison's early pork industry, but by 1828 one slaughterer advertised for 1,000 hogs "delivered in Madison as early in November as the weather will admit to

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[30]Latta, History of Indiana Agriculture, 55.

[31]Lippincott, A History of Manufactures, 114-15.

[32]Henry W. Ellsworth, Valley of the Upper Wabash, Indiana, with Hints on Its Agricultural Advantages (New York, 1838), 39-40.

[33]Latta, History of Indiana Agriculture, 55.

[34]Madison Indiana Republican, December 25, 1819.

slaughter them."[35] Ordinarily the early slaughtering and packing processes were separate industries,[36] but by 1830 in Madison the two industries were combined. At that time a slaughtering and pork packing house employed fifteen to twenty hands during the season from November to January. The work called for no special skill but "temperance during working day [was] required."[37]

Corn had still another influence on the development of Madison, for when distilled into whiskey it was an article of substantial demand. William C. Howells, referring to Ohio in the years 1813 to 1830, observed that a "manufacture of these times which flourished through all changes was whiskey. No difference if grain was scarce or dear, or times were hard, or the people poor, they would make and drink whiskey, and the number of little distilleries was wonderful."[38] Commonly fitted up with a 25- or 40-gallon still, and half a dozen tubs, these "little distilleries" produced a barrel of whiskey a day when pushed to capacity.[39] The popularity of whiskey, the early abundance of corn, the ease and cheapness of constructing simple stills, and Madison's important "highway" location, all suggest the early association of distilleries with its taverns. According to William Faux, a tavern in connection with a highway could

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[35] Ibid., October 15, 1828.

[36] Clemen, American Livestock and Meat Industry, 124.

[37] Madison Indiana Republican, November 25, 1830.

[38] William Cooper Howells, Recollections of Life in Ohio, From 1813 to 1840 (Cincinnati, 1895), 125.

[39] Ibid.

command profits two or three times its investment.[40]

In 1811 when John Wagoner opened the first tavern in Madison he sold whiskey and other distilled spirits for 12½ cents "per half-pint."[41] The number of taverns expanded rapidly and by 1817 had increased to nine.[42] The importance of Madison's taverns as probable distillers of surplus corn declined in the 1820s, victims of the general economic slump between 1822 and 1824; in 1827 only two taverns remained.[43]

When the economy of Madison improved in the 1830s, hotels replaced the earlier taverns.[44] Stressing commodious lodgings, food, and entertainment, they became the lodging of the traveler. In 1837 the state chartered the Madison Hotel Company with an authorized capital of $50,000 to build a fine hotel in Madison.[45] This first Madison Hotel stood on the southwest corner of Mulberry and Second streets until 1849 when it was torn down to make way for another Madison Hotel, one designed by Francis Costigan.[46]

During its early years Madison established other processing industries such as a saw mill, wool-carding establishment, and cotton mill, but none

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[40]Faux, Memorable Days in America, 18.

[41]Order Book, First Indiana Territorial Court of Common Pleas, Madison, Jefferson County, 1811-1812, p. 2.

[42]Commissioner Record "A," February 1817 to November 1833 (Auditor's Office, Jefferson County Court House, Madison, Indiana), 50.

[43]Madison Indiana Republican, November 15, 1827.

[44]Ibid., April 1, 1830.

[45]Local Laws of Indiana (1836-1837), 50-52.

[46]Madison Daily Courier, March 28, 1850.

compared to those related to corn production. Though Madison used wood extensively for fuel, building, and as a raw material for industries, prior to 1849 the town apparently had little need to increase its sawmill facilities beyond the one attached to Paul's grist mill. In that year the editor of the Daily Courier appealed to the town, "We must have good steam saw-mills with the capacity to cut all kinds, and sizes of lumber."[47] The town did not immediately respond to the appeal and until the decade of the 1850s Madison had its lumber needs satisfied largely by the sawmills of the county. The census of manufactures for 1850 reported no sawmill in Madison and only four small water powered sawmills in the township. Each of the latter had a capacity of 300 logs annually and they had a combined annual product of $8,850.[48]

Wool and cotton industries also had little influence on the early development of Madison. William Robinson had a wool-carding machine there as early as 1817,[49] but a wool industry had little chance of maturing in Madison because, as Morris Birkbeck observed, "There is not a district, scarcely a spot that I have travelled over, where a flock of fine woolled sheep could be kept with any prospect of advantage, provided there were even a market for the carcase." Mutton, he continued, "is almost as abhorrent to an American palate, or fancy, as the flesh of swine to an Isrealite."[50] His dictum that "Deep woods are not the proper abode of

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[47] Ibid., November 27, 1849.

[48] U. S., Census of Manufacturing, 1850 (manuscript, Archives Division, Indiana State Library).

[49] Madison Indiana Republican, May 3, 1817.

[50] Birkbeck, Notes on a Journey in America, 99-100.

sheep" seems to have been generally accepted by the early Indiana pioneers.[51] The cotton mill established about 1822 by Moody Park[52] had more success than the woolen industry, but because little domestic cotton grew in southern Indiana (with most of this for family consumption)[53] it also had a limited influence on the development of Madison.[54] Indeed, so important does corn appear to the early development of Madison's industry that it does not seem too much to say that if Boston was built on the bones of the cod fish, Madison was built on the cobs of the corn stalk.

From 1830 to 1860, the agricultural production of Madison's hinterland increased measurably, not as the result of enlightened farm husbandry, but from the expansion of the area of cultivated land.[55] Evidence for the primitive practices of antebellum farmers may be seen in their general and prodigal waste of manure. Farmers fed their cattle generally in woodlots, partly for the slight shelter the lots afforded, but more to prevent the fields from being encumbered with the litter or packed by the tramping of stock. In many instances they erected their barns on hillsides and beside streams so that spring freshets would wash the manure away.[56] Dr.

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[51]Latta, History of Indiana Agriculture, 56. The manufacturing census for 1840 shows no wool industry in Jefferson County. U. S., Statistics of the United States of America, Sixth Census, 1840 (Washington, 1841), 333.

[52]Wanderer, Number 5, Madison Weekly Herald, October 31, 1889.

[53]Thomas, Travels Through the Western Country, 150.

[54]The 1840 manufacturers census reported one cotton mill in Jefferson County with an annual value of manufactured articles of $20,000. Statistics, Sixth Census, 1840, 333. In 1850 the manufacturers census reported no cotton mill in Madison or the county.

[55]Latta, History of Indiana Agriculture, 64.

[56]Ibid., 112.

N. Tompkins of Bartholomew County in the early 1850s described the common result of waste and unenlightened farm husbandry. "The hardest toil day by day," he wrote, "scarcely brought remunerative crops, because misdirected. Ragged looking farms grown up with briars and weeds, surrounded by broken fences greeted the traveler on every hand."[57] Extensive farming that resulted from the abundance of land and meager machinery fostered what one observer termed the "western rotation" of crops: "first year corn, second year corn and weeds, third year weeds and corn, fourth year weeds."[58]

Figures for expansion of cultivated land in the counties of Madison's hinterland do not appear before 1850, but by then its 31 counties had 2,256,958 acres of improved land. In the 1850s the amount of improved land increased almost 40 percent, to 3,185,457 acres in 1860.[59] The progression of early pioneer, from backwoodsman to relatively settled occupant of the land and the early settlement of the southern and eastern portion of the state (Figure 1), suggests a wave moving from south and east to north and west across Madison's hinterland, expanding the area of cultivation as it moved. The totals for the improved land in 1850 and 1860 support the image. The amount of improved land in the eleven counties of the New Purchase area (Figure 1) almost equalled that of the twenty counties settled earlier. In the twenty counties where earliest settlement occurred, as indicated by the dates of the Indian treaties that opened the land (Figure 1), the amount of

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[57] Second Annual Report of the Indiana State Board of Agriculture [1852] (Indianapolis, 1853), 352.

[58] First Annual Report Indiana Board of Agriculture [1851], 212.

[59] U. S., The Seventh Census, 1850, 790-91; U. S., Agriculture of the United States in 1860, 38-45.

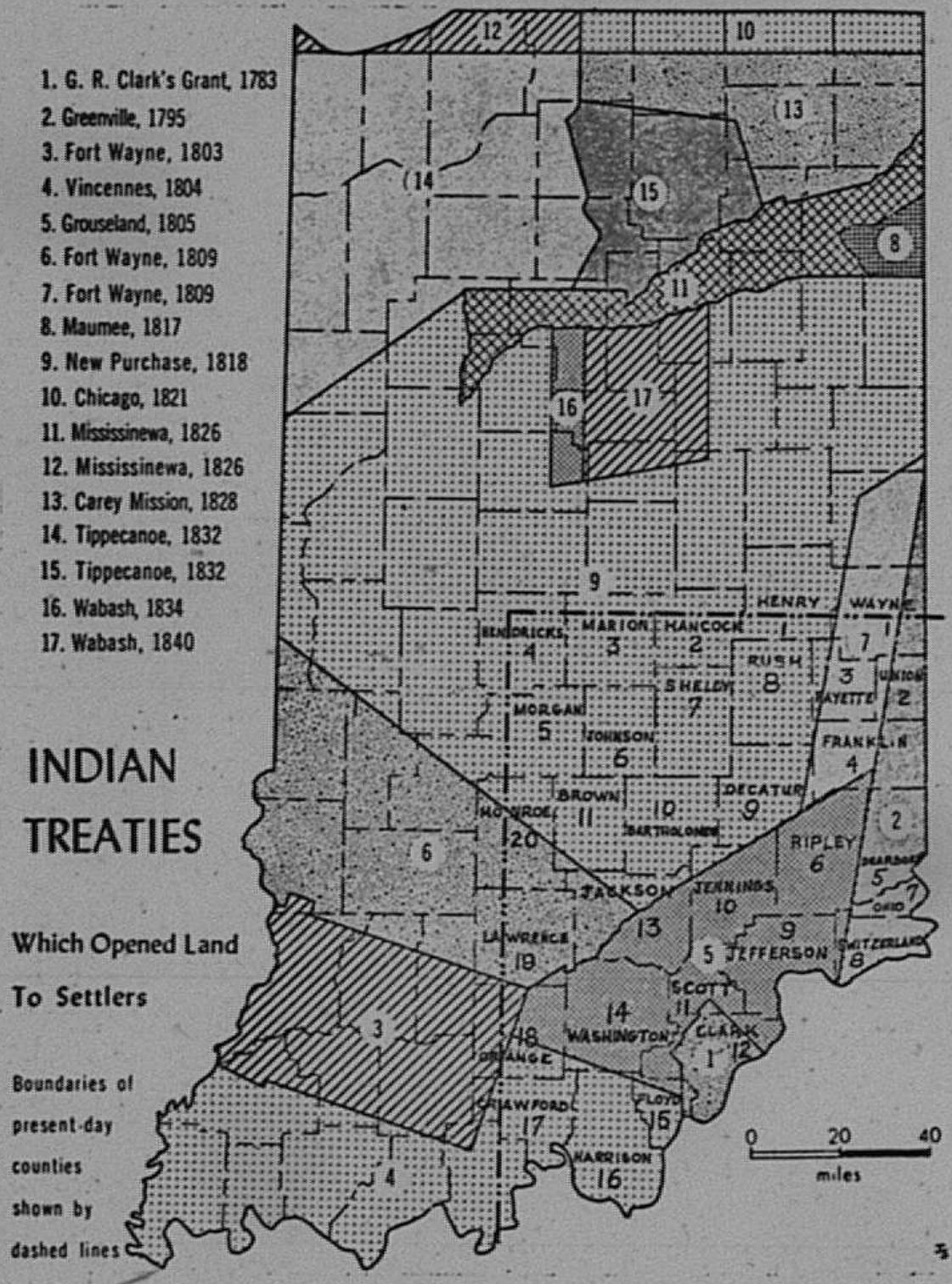

Figure 1. Thirty-One Early and New Purchase Counties of Madison Hinterland in 1850-1860.

Source: Kingsbury, An Atlas of Indiana, 7.

improved land increased from 1,402,908 acres in 1850 to 1,919,134 acres in 1860. These counties had the largest amount of broken land and the poorest soil. In the eleven counties of the New Purchase region, which had more level land and richer soil, farmers increased the amount of improved land from 854,050 acres in 1850 to 1,266,323 acres in 1860.[60]

Possessing comparatively less improved land as well as the poorest and most difficult to cultivate, the counties of earliest settlement also had the smallest farms. In Jefferson County as late as 1854, farmers had improved only "an average of about 54 acres," of the original 160 acre quarter section.[61] In Switzerland County, with only about 42 acres of improved land per quarter section, the farmers had even less land under cultivation.[62] The expansion of the processing industries in Madison depended to a large extent on their ability to attract the farm produce of the more cultivated counties of the New Purchase, particularly those in the northern portion of its hinterland. Since increased production depended principally upon increasing the cultivated area, improved technology appeared first in the plow, the reaper, and the thresher, which could most economically be used on the larger and more level farms farther north.

Madison processing industries gained little direct benefit from the improvement of farm implements. Many of the most important implements came late in the antebellum period and those that were developed did not

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[60] Ibid.

[61] Fourth Annual Report Indiana Board of Agriculture [1854], 64.

[62] Ibid., 118.

appreciably increase the crop yield per acre. The cast-iron plow was first used in Indiana about 1825 and had supplanted the wooden mold-board plow by about 1840, but the steel and chilled plows, required for river-bottom and prairie soils, did not come into use until about 1845 and 1855 respectively, and the subsoil plow was not employed until the decade of the sixties. The early horse drawn thresher appeared about 1840, but the steam thresher was not used until almost two decades later. The other major improvements, the Hussey and McCormick reapers (ca. 1850), the Marsh harvester (ca. 1858), and the Gatling seed drill and planter (ca. 1855), appeared too late to have much impact on Madison industry.[63] In 1857 the Marion County Agricultural Society reported that while reapers were used by many, the harvesting of wheat was still "generally performed by cradle."[64] Improved farm implements brought the farmer relief from heavy labor but it did not appreciably change crop production. The yield per acre of wheat declined from the high of 25 to 30 bushels reported by early travelers to between ten and twenty bushels an acre while yield of corn ranged between 40 and 60 bushels per acre as it had during the earlier period.[65] Table I indicates the increase in corn and wheat crops that resulted primarily from expansion of improved land. As Table I shows, corn and wheat crops in the eleven New Purchase counties (Figure 1), amounted to almost as much as that

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[63]Latta, History of Indiana Agriculture, 78-82.

[64]Sixth Annual Report Indiana Board of Agriculture [1856], 309.

[65]Average figures for per acre corn and wheat production are found in the county reports in the Annual Reports of the Indiana State Board of Agriculture. In 1858, for example, Decatur County reported the average wheat yield per acre of "about fifteen bushels." Eighth Annual Report Indiana Board of Agriculture [1858], 61.

of the twenty early counties combined and corn production exceeded that of the early counties. The only exception was the wheat production of

Table I. Corn and Wheat Production in the 31 Counties of Madison's Hinterland, 1840 to 1860.

	Corn (in 1,000 bushels)			Wheat (in 1,000 bushels)		
	1840	1850	1860	1840	1850	1860
20 Early Counties*	6,683	12,539	12,279	1,278	1,332	3,459
11 New Purchase Counties	6,144	11,032	13,863	621	1,029	2,814
Total	12,827	23,571	26,142	1,899	2,361	6,273

*In 1840 Ohio County was a part of Dearborn County, separating from it in 1844.

Sources: U. S., Compendium of the Enumeration of the Inhabitants and Statistics of the United States, 1840 (Washington, 1841), 286-89; U. S., Seventh Census, 1850; U. S., Agriculture of the United States in 1860, 38-45.

the New Purchase counties in 1840, which may be accounted for, in part at least, by the newness of land improvement and the need for "cropping to reduce its luxuriancy."

The steady increase in hog production paralleled that of corn and wheat. Table II shows the production of hogs in the 31 counties of Madison's hinterland (Figure 1). As Table II shows, hog production, like that of corn and wheat, steadily increased following 1840, but after 1850 the rate of increase declined sharply, largely because of a drop in production in the twenty early counties. As the quantity of hogs improved, so did the quality of the breeds, which meant more meat and less waste. Although an improved breed of swine was introduced into southeastern Indiana as early as 1816, not until about 1840 did farmers generally practice selective

Table II. Hog Production in the 31 Counties of Madison's Hinterland, 1840 to 1860.

	1840	1850	1860
20 Early Counties	368,651	577,484	521,513
11 New Purchase Counties	343,954	458,068	620,636
Total	712,605	1,035,552	1,142,149

Source: Same as Table I.

breeding. Even then, most farmers thought it necessary to cross the improved breeds with one that could roam the forest in quest of food, and walk to market. By the 1850s the early pioneer hog variously known as the alligator, Land Pike, Razor-back, Prarie rooter, Seven-mile, and Hazel-splitter, had begun to give way to improved breeds.[66] The Bartholomew County Agricultural Society reported in 1853, that "A perceptible change had taken place in the breeds of hogs among us within a few years. The long-nosed, sub-soil, slab-sided, long-legged racers with which our farms used to be stocked, have in a great measure given place to fine, noble animals, sleek and pretty."[67] By the decade of the 1850s Irish, Grazier, Byfield, Berkshire, China Suffolk, Essex, and the Warren County (Ohio), known later as the Poland-China, had become the most popular breeds of hogs.

From 1832 to 1847, when the Madison railroad penetrated the New Purchase counties to Indianapolis, Madison contained only one extensive steam merchant mill. Until then much of the grain produced in the hinterland and shipped to Madison passed through unprocessed to Cincinnati and Louisville. The editor of the Weekly Courier in 1845 regretted publishing that "The

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[66] Latta, History of Agriculture, 73-74.

[67] Third Annual Report Indiana Board of Agriculture [1853], 45.

shipment of wheat from this place to points above us on the river, amounts as we were told by a Commission Merchant a few days since, to something over one thousand bushels daily. The two packet boats plying between this city and Cincinnati have full freights of wheat and other produce every day." The shipment of unprocessed wheat the editor viewed as intolerable since "Madison should manufacture this wheat." Commission merchants might buy the wheat and thereby induce farmers to purchase their supplies in Madison, "but our own citizens," he continued, "should have the profits of manufacturing--our own mechanics and laborers should have the benefits of building and keeping in repair the machinery, and the superintendence of its operation."[68]

The expected extension of the railroad to Indianapolis, the editor wrote, would soon bring "all surplus wheat of Jefferson, Jennings, Scott, Ripley, Decatur, Bartholomew, Brown, Johnson, Shelby, Morgan, Marion, Hancock, Hendricks, and several other counties...to our very door."[69] He might have added corn and hogs as well, for a large share of these staple crops traveled to Madison from the tributary area he described. Table III shows the amount of corn, wheat, and hogs produced in the sixteen counties[70] located in Madison's tributary area in 1850 (Figure 3, Chapter 3) compared with those items carried to Madison on the railroad. The figures shown in Table III, particularly for 1852 following completion

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[68]Madison Weekly Courier, November 1, 1845.

[69]Ibid.

[70]Ripley, Jefferson, Scott, Monroe, Jackson, Jennings, Hancock, Marion, Hendricks, Morgan, Johnson, Shelby, Rush, Decatur, Bartholomew, and Brown.

Table III. Comparison of Corn, Wheat, and Hog Production in Madison Tributary area in 1850 with M & I RR Freight of Those Items.

	Corn (in 1,000 bushels)	Wheat (in 1,000 bushels)	Hogs
Tributary Area, 1850	13,533	1,141	578,748
M&IRR Freight, 1847	181	209	54,255
M&IRR Freight, 1850	154	334	93,949
M&IRR Freight, 1851	519	538	94,982
M&IRR Freight, 1852	483	804	130,730

Source: U. S., Seventh Census, 1850, 790-91; Madison Railroad, Ninth Report (1852), iv; Tenth Annual Report (1853), Appendix.

of the branch line of the railroad to Shelbyville and Knightstown, reflect favorably on Madison's ability to draw a large portion of the produce of the tributary area for its processing industries.

Madison was expecially successful in attracting the tributary area's wheat, but it also obtained a commanding share of the hogs. Assuming farmers retained half their swine for breeding, expansion of their herd, and maturation that took from 24 to 30 months, Madison received almost half the available 1850 hog crop by railroad in 1852.[71] The major

[71]The actual figures for hog production and packing in Indiana suggest even more than 50 percent may have been retained. In 1850 the state reported a hog crop of 2,263,776 swine, but in the 1851-1852 packing season one report indicated only 447,352 hogs, less than a fourth of the 1850 crop, packed in Indiana. Seventh Census, 1850, 792; DeBow's Commercial Review, XVI (1854), 409. At this time Cincinnati and Louisville as well as perhaps other cities outside of the state packed Indiana bred hogs which doubtless accounts for the low percentage of the crop packed in the state. For the slaughter of the hog crop to have exceeded 50 percent based on these figures would have meant more hogs packed outside of the state than in it. This is certainly a possibility but it seems equally possible and probable that more than 50 percent of an antebellum hog crop was retained. Rudolf A. Clemen reports that postbellum hog farmers whose hogs matured within twelve months, normally retained from 30 to 40 percent of their herd for breeding and maturation. American Livestock and Meat Industry, 582-84. Since it took antebellum hogs anywhere from two to two and a half years to mature, it seems reasonable to infer that antebellum farmers may have kept from market as much as twice the postbellum percentage.

difference between production and the amount freighted to Madison is found in the figures for corn. In large part this deviation resulted from the fact that "vast quantities of corn annually raised" were fed to hogs. As the Marion County agricultural society reported in 1853, "It is supposed that 680,000 bushels of corn annually, for the past few years, has been fed to hogs fattened for market."[72] Much corn was consumed locally, and comparatively little went to market. Corn came to Madison as hogs for the butcher's knife rather than grain for the miller's stone.

Madison responded to the increase in its tributary area occasioned by the anticipated completion of the railroad. In September 1847 the Weekly Courier reported that "Madison can soon boast three extensive steam flouring mills--each running four pairs of the best French burrs, and capable of grinding some eighteen hundred bushels of wheat per day." At that time William Page made a large addition to his mill on Mill Street below High Street and William Griffin built the Palmetto Mill, a "large and splendid mill" five stories in height near the river, "at the curve of the railroad" at the west end of town. At the east end of town near the old Howard boatyard, David White purchased an old abandoned mill and converted it into a much larger mill by the addition of a four story building.[73] Fire destroyed this mill in the spring of 1848, but White immediately built the Magnolia Mill on the northeast corner of Broadway and Ohio streets.[74] The main building of the Magnolia Mill measured 50 by 81 feet, and stood

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[72] Third Annual Report Indiana Board of Agriculture [1853], 162.

[73] Madison Weekly Courier, September 11, 1847.

[74] Ibid., October 11, 1848.

five stories high. Three of its stories were 11 feet in height, one 13, and the other was an attic, giving the building an overall height of more than 50 feet. In addition to the main building, the mill had a steam engine house, 50 by 20 feet, which housed three boilers 25 feet long and 42 inches in diameter, and two engines, each with 13-inch cylinders and a 4½ foot stroke.[75] These engines propelled four pairs of burrs, which, in 1850, processed 300,000 bushels of wheat and produced 70,000 barrels of flour.[76]

Penetration of the New Purchase counties by the railroad had a similar effect on Madison's hog industry and gave hope of Madison's rivaling the great "Porkopolis" itself.[77] During the 1836-1837 season, Madison butchers slaughtered and packed 15,000 hogs, but by the season of 1845-1846 the number had increased to 63,786.[78] More than three-fourths of those slaughtered and packed during this season (53,232) were carried to Madison on the railroad.[79] By the season of 1850-1852 the hogs carried to Madison on the railroad (93,949), substantially equaled those slaughtered and packed (96,949).[80] In the 1852-1853 season the number of hogs carried to Madison on the railroad (130,730) exceeded the number slaughtered and packed (122,799), suggesting that Madison had reached the limit of its

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[75] Ibid., August 30, 1848.

[76] U. S., Census of Manufacturing, 1850.

[77] Madison Weekly Courier, October 5, 1844.

[78] W. G. Lyford, The Western Address Directory, 1837 (Baltimore, 1837), 339; Madison Weekly Courier, January 31, 1846.

[79] Madison Railroad, Ninth Annual Report, iv.

[80] Ibid.; Madison Daily Courier, January 14, 1851.

existing facilities and further expansion would be required if the supply continued to increase.[81]

No single industry meant more to the economic well-being of Madison than its hog industry. For, in addition to the slaughtering and packing of hogs through which its three largest firms produced an annual product valued in 1850 in excess of $670,000,[82] this industry had the further effect of generating supplemental industries. Lard oil, candle and soap, bristle and curled hair brush production, cooperage and tanning, all depended on the hog industry. The Suire and Fitch lard oil factory processed annually 300,000 pounds of lard into 24,000 gallons of lard oil while Madison's ten cooperage firms annually produced 36,870 barrels and other wooden containers, many of which packers used to ship hog products.[83]

The decline in hog processing that followed the season of greatest production in 1852-1853, therefore, had a multiplier effect on the Madison economy, unmatched by decline in other industries. The failure of Madison slaughterers and packers to expand their facilities to meet the supply of that season suggests a wait-and-see attitude that subsequent events proved wise. In the 1853-1854 season hogs slaughtered and packed declined slightly to 122,450, but in the 1854-1855 season the number declined sharply to 83,992.[84] Thereafter, hog processing continued to fall steadily until the 1859-1860 season, when Madison butchers slaughtered and packed 59,891

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[81] Madison Railroad, Tenth Annual Report, Appendix; Madison Daily Courier, January 15, 1853.

[82] U. S., Census of Manufacturing, 1850.

[83] Ibid.

[84] Madison Daily Courier, January 19, 1854; January 23, 1855.

hogs, which was less than they processed in 1845-1846.[85] The large processors also declined, doubtless as a result of the competition for hogs brought to Madison. In 1850 three houses almost equally divided the market but in the 1859-1860 season the Mammoth Cave Pork House of Powell, McEwen and Company slaughtered and packed 45,000 hogs while three other small processors divided the remainder.[86]

Madison's flour milling industry also suffered a similar decline in the years after 1853, paralleling the decline in the hog industry and compounding its effect on the economy of Madison. In 1860, although Madison had five merchant mills, they collectively milled only 387,205 bushels of wheat, which was little more than the Magnolia Mill processed singly in 1850.[87] Even more indicative of the decline that beset the milling industry of Madison was that when the city's two largest mills--the Magnolia and Palmetto mills--burned down, they were not replaced. Fire destroyed the Magnolia Mill in 1854 but unlike the one it replaced in 1848, no new mill was raised upon its ashes.[88] Although talk of replacing it with a cotton factory occurred from time to time, the lot on which the Magnolia Mill stood contained nothing but rubble for the rest of the decade.[89] In 1858 fire destroyed the Palmetto Mill, and again nothing took its place.[90]

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[85] Ibid., Janaury 11, 1860.

[86] U. S., Census of Manufacturing, 1860 (manuscript, Indiana State Library).

[87] Ibid.

[88] Madison Daily Courier, November 11, 1854.

[89] Ibid., November 12, 1858; June 13, 1859.

[90] Ibid., October 28, 1858.

The Magnolia and Palmetto mills had the capacity to produce 300 and 400 bushels of flour per day respectively, while in 1860, Madison's largest mill, the Star Mill, had a capacity of only 200 barrels.[91] This reduction in the size of mills reflects the decline in the size of its processing industries generally, in part brought on by the fragmentation of its tributary area (Figure 4, Chapter 3), and by the rise of competitive processing industries within that area. Table IV shows the corn, wheat, and hog products processed in its tributary area and carried to Madison

Table IV. Processed Corn, Wheat, and Hog Products Carried to Madison from Its Tributary Area on M & I RR, 1846-1852.

	1846	1847	1848	1849	1850	1851	1852
Corn Meal (bushels)	1,941	1,226	1,356	3,604	19,951	14,016	16,205
Flour (barrels)	35,272	55,560	59,707	57,454	53,386	93,463	133,035
Bacon (hhds.)	613	1,031	1,584	1,342	1,765	850	1,539
Lard (kegs)	2,528	1,442	1,705	1,930	1,827	1,091	1,047
Lard and Pork (bbls.)	4,456	3,263	3,075	21,207	8,039	11,990	16,851
Bacon (bulk, per 100 lbs.)	108	1,140	1,894	2,017	8,543	13,342	15,870

Source: Madison Railroad, Ninth Annual Report, iv; Tenth Annual Report, Appendix.

on the Madison and Indianapolis Railroad from 1846 to 1852. Although the figures in Table IV indicate irregularity in the increase of processed goods shipped from Madison's tributary area, the increase in the amount shipped to Madison in 1852 over 1846 suggests a change had occured in that area's ability to process its farm products.

[91] Ibid., September 8, 1854; July 27, 1855; July 19, 1860.

The advantages of Madison's having processing industries, as expressed by the editor of the Weekly Courier in 1845, applied equally to centers in its tributary area. Governor Joseph A. Wright in 1853 expressed the philosophy, export "only in the most concentrated form," toward which many of the centers had begun to move.[92] Shelbyville erected three large steam flour mills in 1854, and in the same year Ripley County reported steam flouring mills "recently built."[93] A similar trend marked the slaughtering and packing of pork. In 1855 Bartholomew County packed 3,153 barrels of pork and by 1856 had increased the number to 5,298 barrels. Decatur County had an even greater increase in its pork packing industry. In 1855 the county had no pork packing industry but in 1856 it reported packing 3,124 barrels.[94]

Such local processing industries competed with those of Madison and supplemented the decline brought on by the fragmentation of its tributary area. By 1860 Madison's processing industries drew on little beyond Jefferson County which provided only enough to sustain the smaller processing industries that remained. The counties of Jennings and Scott which lay immediately to the north and west, along with Jefferson County, represented the extent of the tributary area from which Madison's processing industries might legitimately hope to draw (Figure 4, Chapter 3). Table V shows the corn, wheat, and hog production of those counties in 1860. The production

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[92] Third Annual Report Indiana Board of Agriculture [1853], 297.

[93] Fourth Annual Report Indiana Board of Agriculture [1854], 127, 138.

[94] Annual Report of the Auditor of State of the State of Indiana (Indianapolis, 1855), 386-D; Sixth Annual Report Indiana Board of Agriculture [1856], 587.

of Madison's flour mills and slaughter houses that processed 387,205

Table V. Corn, Wheat, and Hog Production in Madison's Tributary Area, 1860.

	Corn (bushels)	Wheat (bushels)	Hogs
Jefferson	555,691	167,996	24,923
Jennings	372,896	150,826	21,163
Scott	223,226	67,778	13,616
Total	651,813	386,600	59,702

Source: U. S., Agriculture of the United States, 1860, 38-45.

bushels of wheat and 59,871 hogs respectively in 1860, came close to the yield of these counties.

During the decade of the eighteen fifties the decline in the productivity of wheat and hog processing directly paralleled the shrinking of Madison's tributary area. Among the largest alternative processing industries that developed or expanded during the decade were three breweries and a corn starch factory, the product of which in 1860 did not equal the value of the annual product of the Mammoth Cave Pork House in 1851. On the eve of the Civil War Madison's breweries had a combined value of annual product of $111,120 and its starch factory $200,000, making a total of $311,120.[95] In 1851 the Mammoth Cave Pork House processed over 47,000 hogs, which at 1860 prices would have amounted to a value of annual product over $600,000, or double that of Madison's most important alternative processing industries.[96]

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[95] U. S., Census of Manufacturing, 1860.

[96] Madison Daily Courier, December 26, 1851. In 1860 Powell, McEwen and Co. packed 45,000 hogs for a value of annual product of $600,000. U. S., Census of Manufacturing, 1860.

The development of transportation equipment industries in the 1850s provided another alternative to the declining processing industries. There were those who even entertained hope of founding a rolling mill and nail factory in Madison in 1853. "We don't know that we have ever penned an item with so much pleasure," wrote the Daily Courier, somewhat prematurely, "as we today announce conclusion of arrangements for the establishment of extensive iron works at this city."[97] The rolling mill never materialized but a transportation equipment industry did thrive for a few years. This centered on steamboat building and railroad car manufacture with their supplemental foundries, machine shops, lumber mills, and steam engine shops.

Madison's earliest attempt at steamboat building had come in the 1830s when the expansion of steamboat traffic prompted an attempt at boat-building. In the spring of 1836 the Republican and Banner announced that a shipyard had been established in Madison and the building of steamboats had begun.[98] James Howard and Prime Emerson established the boatyard on the east side of Madison between Fulton Street and the river, and every sign appeared to promise them success.[99] In 1836 Howard and Emerson built two steamboats--the Irvington (105 tons) and the Livingston (175 tons)--

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[97]Madison Daily Courier, November 11, 1853.

[98]Madison Republican and Banner, June 1, 1836. For more on the life of James Howard see: Charles P. Fishbaugh, From Paddle Wheels to Propellers (Indianapolis, 1970), 15; Garnett L. Eskew, The Pageant of the Packets: A Book of American Steamboating (New York, 1929), 88-89; Captain Lewis C. Baird, Baird's History of Clark County Indiana (Indianapolis, 1909), 330; Stephen G. Savage, "James Howard of Jeffersonville, Master Builder of Steamboats," (master's thesis, Indiana University, Bloomington, 1952), 2-27.

[99]Madison Weekly Courier, February 1, 1845.

and in 1837, two barges--the Hard Times and Natches.[100] In 1838 boatbuilding suffered from the effects of the Panic of 1837 and a general overproduction.[101] A temporary return of prosperity and an increase in the demand for boats enabled Howard and Emerson to build three steamboats in 1839--the John Armstrong (143 tons), and New Argo (133 tons), and the Robert Fulton (187 tons). In this, the firm's best year in Madison, they employed as many as nineteen men at one time.[102]

The depression that began in 1839 and another overproduction of steamboats in the years 1840, 1841, and 1843 again limited construction.[103] The firm launched only two steamboats during the period--the Governor Moorehead (98 tons) in 1840, the Montezuma (about 200 tons), and a packet barge, Louisiana, in 1843.[104] These were the last boats Howard and Emerson built in Madison and though their boats brought them a reputation for "excellent and substantial work" they brought them no financial success. In 1844 the Lister's Book for Madison shows Howard and Emerson owning only the lot on which their boatyard stood.[105] The Weekly Courier reported in 1846 that

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[100]John Howard, "Record of Boats Built," Howard Collection (Lilly Library, Indiana University, Bloomington).

[101]Ambler, A History of Transportation, 181.

[102]Howard Shipyards and Dock Company, Time Book, April 7, 1839-February 22, 1847, Howard Collection (Lilly Library, Indiana University, Bloomington); Howard, "Record of Boats Built."

[103]Ambler, A History of Transportation, 181.

[104]Howard, "Record of Boats Built;" Madison Weekly Courier, April 20, 1844.

[105]1844 Lister's Book (Archives, City Hall, Madison, Indiana). The Lister reported on taxable wealth of citizens of the town.

the Howard and Emerson boatyard was to be sold "for taxes due."[106] The Mammoth Cave Pork House eventually came to occupy the property where once the mold loft and foundry of Madison's first boatbuilding industry had stood.[107]

Boatbuilding did not disappear from Madison in 1846 when Howard departed. In 1847 a Captain D. W. Dryden constructed the Madison Belle (169 tons) at a boatyard "on the city wharf."[108] After the launching of the Madison Belle no other steamboats were built in Madison prior to 1852 when the Madison Marine Railway and Ship Yard built the Golden Gate (317 tons).[109] Construction of the Golden Gate began Madison's most successful effort in steamboat building, and launched it into the era of large steamboats that reached its height in the decade of the fifties. The Golden Gate, 300 feet long with a 35 foot beam, was larger than any steamboat yet built at Madison and too large for the three lift locks on the Louisville and Portland Canal.[110] Built for the Upper Ohio trade, the Golden Gate could only pass the falls of the Ohio River during the high water periods of spring and fall.

The Howard and Emerson firm had been a partnership but in 1849 the state chartered two corporations--the Madison Iron Manufacturing Company

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[106]Madison Weekly Courier, February 28, 1846.

[107]Reminiscence of Captain A. M. Connett, Madison Daily Courier, December 21, 1884.

[108]Madison Weekly Courier, July 24, 1847.

[109]Madison Daily Courier, September 1, 1852.

[110]Paul B. Trescott, "The Louisville and Portland Canal Company," 1825-1847," Mississippi Valley Historical Review, XLIV (March 1958), 699; Ambler, A History of Transportation, 156.

and the Madison Manufacturing and Ship Yard Company--with authority to build steamboats. It authorized the former company to capitalize at $100,000, which could be expanded to $200,000 if needed, and its operations were to include, in addition to the building of steamboats, "rolling and moulding iron, making nails, and...to work in iron, brass and steel."[111] The latter company, chartered more specifically for "the construction of steam boats and other vessels," never organized. One reason for this may have been the difficulty of raising capital. When the Madison Iron Manufacturing Company organized in March 1851, 101 investors had purchased only $55,650 of the authorized stock. Most of this was in amounts of $500 or less and only one investor, Timothy Barber, subscribed as much as $5,000.[112] Styled an iron manufacturing company, when its directors met in September 1851, they decided "the company will only establish a Ship-yard, and carry on business connected with the building and repairing of boats." At the same time the company assumed the name Madison Marine Railway and Ship Yard under which it operated.[113]

The directors elected David White first president of the company and located the boatyard on the west end of Madison on property belonging to Jesse Whitehead and William McKee Dunn.[114] Construction of a marine railway, sawmill, and mold loft, and foundry began in the fall of 1851 and was

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[111] Local Laws of the State of Indiana (1848-1849), 15-16, 342.

[112] Madison Daily Courier, March 31, 1851; undated clipping in Historical Scrapbook Number 2 (Jefferson County Library, Madison, Indiana).

[113] Madison Daily Courier, September 20, 1851.

[114] Ibid., September 25, 1851.

completed the following year. In addition to the Golden Gate the boatyard launched some 23 other steamboats in the years between 1852 and 1859. Table VI indicates the boats reported built at the Madison Marine Railway and Ship Yard during those years.[115]

Table VI. Steamboats Built at Madison Marine Railway and Ship Yard, 1852 to 1859.

Rig	Name of Vessel	Tons	Year	First Home Port	Disposition
P	Golden Gate	317	1852	Cincinnati, Ohio	L57
P	David White	636	1853	Wheeling, Va.	L57
P	John G. Cline	295	1853	Louisville, Ky.	A60
P	Galena	297	1854	Galena, Ill.	L58
P	Highflyer	472	1854	Louisville, Ky.	A61
P	David Walsh	597	1855	St. Louis, Mo.	A67
P	Grace Darling	261	1855	Louisville, Ky.	A58
(U)	Rodolph	274	1855	St. Louis, Mo.	L58
P	A. C. Gooddin	351	1856	St. Louis, Mo.	(U)
P (W)	Fred Tron	378	1856	Cincinnati, Ohio	L60
P	New Ben Accord	142	1856	St. Louis, Mo.	A76
P	William H. Russel	405	1856	St. Louis, Mo.	L62
P	City of Louisianna	564	1857	St. Louis, Mo.	L60
P	Des Moines	297	1857	Keokuk, Ia.	A66
P	Hannibal City	563	1857	St. Louis, Mo.	L63
P	Northern Light	414	1857	Galena, Ill.	L66
P	R. W. Adams	399	1857	New Orleans	L58
P	W. A. Andrews	229	1857	New Orleans	C61
W	Warsaw	457	1858	Louisville, Ky.	L66
P	Forest Queen	419	1858	Cincinnati, Ohio	L63
P	John H. Dickey	403	1858	Louisville, Ky.	A65
P	Die Vernon	578	1859	St. Louis, Mo.	L67
W	Quincy	125	1859	Quincy, Ill.	A69

Source: William M. Lytle, Merchant Steam Vessels of the United States, 1807-1868, "Lytle's List," Forrest R. Holdcamper, ed. (Mystic, Connecticut, 1952); Madison newspaper reports.

As Table VI shows, most of the steamboats built at Madison prior to 1860 were of the larger class. The David White (636 tons), built by

[115]The categories are those used in "Lytle's List:"

1. Rig. "P" sidewheel, "W" sternwheel.

Alexander Temple for the Union Line in the Louisville and Wheeling trade, represented one of the finest and largest. Temple constructed the hull, which measured 300 feet over-all and had a 35 foot beam, with a flare or spread fanlike from the keel upward allowing the boat to draw only 3½ feet of water when empty.[116] Built entirely in Madison and expressly for passengers, the boat stressed luxury, comfort, and convenience. The Daily Courier carried the following description of the David White:

> Her boilers, five in number, are 30 feet long, 46 inches in diameter, with five flues. She has two engines, with cylinders 30 inches in diameter, 9 feet stroke. Her wheels are 36 feet in diameter, with twelve-feet buckets. She has three masts, which extend several feet above the upper deck, over which heavy chains pass, sustaining and strengthening the entire structure of the boat.
>
> Her main cabin contains state rooms for 142 passengers; those in the ladies cabin are fitted up with clothes presses, wash stands, &c. &c., making them as comfortable and convenient as the rooms of a first class hotel....Her saloons are handsomely and expensively furnished. The paint on the cabin is of the purest white, with a small ring on the arches gilded. Length of the cabin 266 feet. Altogether the cabin of the David White, with its handsome furniture, tapestry carpets, gorgeous chandaliers, mirrors, &c. presents a tout en semble rarely met with in the cabin of a steamboat.[117]

The production of steamboats at the Madison Marine Railway and Ship Yard, as Table VI shows, developed gradually as its reputation for building fast reliable boats spread. By 1855 the yard employed 100 men in building and repairing steamboats and other water craft and in 1857 met

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2. First Home Port. The home port was normally the port nearest the residence of owners or where they carried on their shipping business; occasionally where first registered.
3. Disposition. "L" lost; "A" abandoned, dismantled; "C" passed to confederate control; "U" unknown.

[116] Madison Daily Courier, August 20, 1852; February 25, 1853; June 1, 1853.

[117] Ibid., February 18, 1853.

an estimated payroll of a thousand dollars a week.[118] So successful had the boatyard become by then that some felt "the establishment of another shipyard to meet the demands of trade had become absolutely necessary."[119] The panic of 1857, though of short duration, and a general decline in steamboat construction that began in the middle of the decade (Table I, Chapter 4), halted talk of a second boatyard and cut sharply into steamboat production at the Madison Marine Railway and Ship Yard (Table VI). In June 1858 the Madison representative of a credit agency reported that the owners of the boatyard, "find it difficult to raise money & are under protest but they have a large amt of ppty & are perfectly solvent."[120] Their financial circumstances remained unchanged in 1859 but by 1860 business had improved substantially. The boatyard in that year employed 75 men at an annual wage of $3,012, and had an annual value of product of $90,000.[121]

The resurgence of steamboat construction in 1860 led to establishment of a second boatyard on the west end of Madison below the ruins of the Palmetto Mill.[122] The Madison Dry Dock Company, begun in 1860, launched several boats, including the ferryboat Union (116 tons), before the end of the year.[123] But the "Golden Age" of river commerce had passed.

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[118] Ibid., August 27, 1855; May 14, 1857.

[119] Ibid., June 25, 1857.

[120] Mss. Credit Reporting Ledger, 104.

[121] U. S., Census of Manufacturing, 1860.

[122] Madison Daily Courier, January 12, 1860.

[123] Ibid., April 21, 1860.

Table VII shows the steamboats reported built in Madison by its two boatyards in 1860. Though the combined tonnage (2,375 tons) approached the best year of 1857, the boats' smaller size in 1860 signaled the retreat of steamboat commerce and the end of the need or desire for such boats as the David White.[124] The building surge in 1860 still left the Madison Marine Railroad and Ship Yard "in debt & hard run." The early sixties brought no relief and in 1865 the owners sold out.[125]

Table VII. Steamboats Built in Madison's Boatyards in 1860.

Rig	Name of Vessel	Tons	Year	First Home Port	Disposition
P	Carl	52	1860	Memphis, Tenn.	C61
P	City of Alton	686	1860	Alton, Ill.	A83
P	City of Madison	419	1860	Cincinnati, Ohio	L63
P	Fanny Pearson	137	1860	New Orleans	A68
W	Lesli Coombs	99	1860	Cincinnati, Ohio	L72
P	Mark R. Cheek	122	1860	Memphis, Tenn.	L65
W	Mattie Cook	120	1860	Louisville, Ky.	L67
P	P. E. Bouford	231	1860	New Orleans	C61
P	Union	116	1860	Louisville, Ky.	A69
(U)	Pauline	135	1860	(U)	(U)
(U)	President	258	1860	(U)	(U)
(U)	Jeanie Deans	(U)	1860	(U)	(U)

Source: Holdcamper, ed., "Lytle's List"; Madison newspaper reports.

The railroad, like the river, brought a transportation equipment industry to Madison. William Clough and Joseph Farnsworth established the Southwestern Car Shop in June 1851, and began the production of freight, baggage, and passenger cars there the following November.[126] The principal shop constructed in 1851 was in the form of three sides of a hollow square,

[124]Hunter, Steamboats on the Western Rivers, 481-519.

[125]Mss. Credit Reporting Ledger, 104.

[126]Madison Daily Courier, June 5, 1851; November 1, 1851.

with an east front of 120 feet on McIntyre Street and fronts on Jackson and High streets of 160 feet each. By 1854 the car works included a complex of buildings in addition to the main shop: a machine shop 70 by 100 feet, a truck shop 40 by 80 feet, and auxiliary buildings that extended over almost an acre. These facilities gave the firm a capacity of 300 freight and 25 passenger cars per year. It employed about 100 men, who received "weekly wages of from nine to fifteen dollars." Around and near the complex were houses of the car works' employees and their families, which made of the Southwestern Car Shop a small industrial village.[127]

During its years of greatest production, 1852 to 1857, the Southwestern Car Shop produced railroad cars for the West's early railroads. The firm built its first cars for the Terre-Haute and Richmond, and as it gained a reputation for quality work, soon had contracts from a number of Indiana roads, including one for $50,000 from the Evansville and Crawfordsville Railroad.[128] Its reputation spread south in 1856 when the firm contracted for four passenger cars with the New Orleans, Jackson, and Great Northern Railroad. In early 1857 the firm began building freight, baggage, and passenger cars for other southern roads, including the Memphis and Charleston, the New Orleans, Opelousus and Great Western, the Vicksburg and Texas, and the Southern Pacific railroads. Between March and June 1857, the firm built and shipped 75 cars to the New Orleans, Jackson and Great Northern alone.[129]

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[127] Railroad Record, I (Feb. 9, 1854), 790.

[128] Madison Daily Courier, December 26, 1851; June 14, 1852; October 8, 1852; July 18, 1854.

[129] Ibid., September 13, 1856; March 30, 1857; June 1, 1857.

In the panic of 1857, bankruptcy overtook many of the new lines in the South, as well as in the East and Middle West.[130] It is not known that the Southwestern Car Shop lost money on its contracts with southern and middle western roads, but at the height of the financial crisis, the New Orleans, Jackson, and Great Northern reportedly discounted its mortgage bonds as much as 60 per cent.[131] In 1857 the Madison car works ran into serious financial difficulties, for in 1858 it was reported to the Mercantile Agency (a credit rating firm), that the Southwestern Car Shop had protested debts in excess of $25,000.[132] After 1858 the agent stopped reporting on the firm and in the Census of Manufacturers for 1860 there is no report on either the Southwestern Car Shop or the Madison Foundry, which made its train wheels.

At the beginning of the decade of the fifties processing of agricultural farm products, particularly corn, wheat, and hogs, had been among the largest of Madison's industries. By the end of the decade they had lost much of their importance, through the reduction of Madison's tributary area and the rise of competitive centers. The heyday of Madison's processing industries lasted for only a short time, perhaps no more than seven years from 1847 to 1853, but they accounted for much of the economic success of those years. Steamboat building and railroad car manufacture did not provide alternative manufacturing needed to sustain Madison's

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[130]John F. Stover, The Railroads of the South 1865-1900 (Chapel Hill, 1955), 3-4.

[131]Merl E. Reed, New Orleans and the Railroads: The Struggle for Commercial Empire, 1830-1860 (Baton Rouge, 1966), 100.

[132]Mss. Credit Reporting Ledger, 57.

economic growth and the excitement of the expansion of Madison from 1847 to 1853 contrasted with the torpor that followed. "Every day families are leaving, and every day Madison is growing quieter," Gottlieb Wehle wrote in 1855, "you cannot imagine what excitement it causes in our house now if a guest comes, for now no travelers pass through Madison any longer."[133] Daily, Madison grew "more monotonous and quieter" as its mill stones and hog pens, once the bustling centers of its manufacturing, lost their reason for being.

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[133]Quotation from Josephine C. Goldmark, Pilgrims of '48: One Man's Part in the Austrian Revolution of 1848 and a Family Migration to America (New Haven, 1930), 242.